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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/556,693	04/21/2000	Ralf Bohnke	450117-02477	6440

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EXAMINER

LUGO, DAVID B

ART UNIT PAPER NUMBER

2637

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/556,693

Applicant(s)

BOHNKE ET AL.

Examiner

David B. Lugo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/27/05 has been entered.

Response to Arguments

2. Applicant has cancelled claims 5, 10 and 12-14, and has added new claims 15-22. Applicant has stated that claims 15-22 are allowable over Mizoguchi et al. because Mizoguchi et al. do not teach that the first and second parts of the preamble are correlated. However, since the first and second parts of the preamble of Mizoguchi et al. are set to be identical, they are considered to be correlated to one another. Rejections of claims 15-22 are indicated below.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 15-18, Applicant claims that synchronization "is optimized". Use of the term "is optimized" renders the claims indefinite, since, although the synchronization may be improved from the prior art, the phrase "is optimized" implies that it is improved to the highest

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extent possible. An optimal synchronization is not well defined in the art such that one of ordinary skill would be able to recognize when the synchronization is optimized and there may be synchronization method yielding better characteristics than that provided by the instant invention.

5. Claims 15, 17, 19 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15, 17, 19 and 21 each recite a device for generating and transmitting a preamble signal comprising preamble signal generating means for generating a preamble signal, time domain signal generating means for generating a time domain signal from the preamble signal, and transmitting means for transmitting the time domain signal. These limitations are written in means plus function form, invoking 35 U.S.C. 112, 6th paragraph. According to MPEP § 2185, section II, if one employs means plus function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. If applicant fails to do so, “the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the 112, second paragraph.” It is noted that the recited means are not described in the written description, nor is the transmitter shown in the drawings. Since the recited means plus function limitations are not described or supported by corresponding structure, material or acts in the specification disclosure, the claims do not particularly point out the subject matter which applicant regards as his invention. See MPEP § 2185.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 15-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizoguchi et al. (previously cited).

Regarding claims 15 and 16, Mizoguchi et al. disclose a device for generating and transmitting a preamble signal in an OFDM system in Figure 1, where a preamble is generated in accordance with the OFDM frame format of Fig. 2b, comprising a first part and a second part, where the first synchronization symbol is used as a start symbol required for detecting data (p. 126, section III), considered to be used for a frame detection, and the repetition signal is used for timing and frequency synchronization (p. 126, section IV, subsection 4.1 to p. 127 subsection 4.2), where the first part and the second part contain inverse Fourier transformed frequency domain sequences of complex symbols (see Fig. 1), the IDFT unit generates a time domain signal from the preamble signal, and the time domain signal is transmitted from a transmitter side to a receiver side of the system, where the number of symbols of the preamble are equal to one another, and are considered to be set so that synchronization at the receiver is optimized, and they are considered to be correlated to one another as they are set to be identical (see p. 126, section III, Fig. 2).

Regarding claims 17 and 18, Mizoguchi et al. disclose a device for generating and transmitting a preamble signal in an OFDM system in Figure 1, where a preamble is generated in accordance with the OFDM frame format of Fig. 2b, comprising a first part and a second part, where the first synchronization symbol is used as a start symbol required for detecting data (p.

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126, section III), considered to be used for a frame detection, and the repetition signal is used for timing and frequency synchronization (p. 126, section IV, subsection 4.1 to p. 127 subsection 4.2), where the first part and the second part contain inverse Fourier transformed frequency domain sequences of complex symbols (see Fig. 1), the IDFT unit generates a time domain signal from the preamble signal, and the time domain signal is transmitted from a transmitter side to a receiver side of the system, where the number of symbols of the preamble are equal to one another (see p. 126, section III, Fig. 2), and are thus considered to be correlated so that a correlation peak generated by synchronization at the receiver is optimized.

Regarding claims 19 and 20, Mizoguchi et al. disclose a device for generating and transmitting a preamble signal in an OFDM system in Figure 1, where a preamble is generated in accordance with the OFDM frame format of Fig. 2b, comprising a first part and a second part, where the first synchronization symbol is used as a start symbol required for detecting data (p. 126, section III), considered to be used for a frame detection, and the repetition signal is used for timing and frequency synchronization (p. 126, section IV, subsection 4.1 to p. 127 subsection 4.2), where the first part and the second part contain inverse Fourier transformed frequency domain sequences of complex symbols (see Fig. 1), the IDFT unit generates a time domain signal from the preamble signal, and the time domain signal is transmitted from a transmitter side to a receiver side of the system, where the frequency domain sequences of the first and second parts are considered to have correlation properties set for the synchronization process performed in the receiver.

Regarding claims 21 and 22, Mizoguchi et al. disclose a device for generating and transmitting a preamble signal in an OFDM system in Figure 1, where a preamble is generated in

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accordance with the OFDM frame format of Fig. 2b, comprising a first part and a second part, where the first synchronization symbol is used as a start symbol required for detecting data (p. 126, section III), considered to be used for a frame detection, and the repetition signal is used for timing and frequency synchronization (p. 126, section IV, subsection 4.1 to p. 127 subsection 4.2), where the first part and the second part contain inverse Fourier transformed frequency domain sequences of complex symbols (see Fig. 1), the IDFT unit generates a time domain signal from the preamble signal, and the time domain signal is transmitted from a transmitter side to a receiver side of the system, where the symbols of the first part are identical to the symbols of the second part (see p. 126, section III, Fig. 2), and are thus considered to be correlated to one another for the synchronization process performed in the receiver.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Lugo whose telephone number is 571-272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Lugo
10/15/05



JAY K. PATEL
SUPERVISORY PATENT EXAMINER